

CLAIMS

1. A work carrier, comprising:

a fixed guide rail member for left and right provided on a support table;

5 at least more than two movable guide rail members accumulated on the fixed guide rail member;

a drive unit for displacing the lowest movable guide rail member in a left/right direction;

10 a rail member interlocking mechanism for operating so that an upper movable guide rail member may greatly jut to the left/right direction in connection with movement of the lowest movable guide rail member in the left/right direction; and
a work stage moving in the left/right direction on the highest movable guide rail member in connection with its movement,

15 wherein the drive unit serves as a motor having a rotational speed being varied by inverter control and employing an open loop rotation control system, a plurality of stopper members are provided so as to impact each other to stop any of the movable guide rail members at positions corresponding to a carrier starting point and a carrier finishing point of the work stage, and the work stage is displaced to an arbitrary position between the carrier starting point and the carrier finishing point.

20 2. A work carrier as claimed in claim 1, wherein said plurality of stopper members comprise movable stopper members 52a, 52b fixed integrally with the lowest movable guide rail member 17 and a fixed stopper member 52c fixed integrally with a support table 10, and the lowest movable guide rail member is stopped at positions corresponding to a carrier starting point p1 and a carrier finishing point p2 on impact
25 of the movable stopper members and the fixed stopper member.

3. A work carrier as claimed in claim 1 or claim 2, wherein said work carrier comprises a reduction gear 20 for being inputted rotation of an output axis of said motor, a driving pinion 27 interlockingly connected with an output axis 20a of the reduction gear 20 and freely rotated along a vertical surface for left and right at a specified position of the support table 10, a movable rack 31 long in a left/right direction interlocked with the pinion and fixed on the lowest movable guide rail member, and a displacement detector 32 for detecting an operating displacement of the output axis of the reduction gear on a path for communicating an operating displacement based on the rotation of the motor or an operating displacement in the arbitrary position by the side of a communicating displacement terminus from the output axis.

4. A work carrier as claimed in claim 3, wherein a tooth 31a of the movable rack is inclined in a front/rear direction of face width, and the driving pinion 27 serves as a bevel gear having a tooth 27a to be interlocked with the tooth of the movable rack, and said driving pinion 27 is fixed on a rotating central axis 26 to adjust a position in the front/rear direction.

5. A work carrier as claimed in any of claims 1 to 4, wherein said rail member interlocking mechanism is provided with a long fixed rack in a left/right direction fixed on said fixed guide rail member, movable racks long in a left/right direction respectively fixed on said movable guide rail members, and interlocking pinions 35a, 35b rotatably mounted around axes for front and rear at specified positions of the movable guide rail members except for the highest movable guide rail member, the tops and the bottoms of the interlocking pinions are interlocked with movable racks 37, 39 or fixed racks 38, 40, respectively, in this case, a tooth of said movable rack and a tooth of said fixed rack are inclined in a front/rear direction of face width, and the

interlocking pinions serve as a bevel gear for engaging with the tooth of the movable rack, and besides, axes for front and rear 36a, 36b corresponding to the interlocking pinions are formed of fixed axes for front and rear 41a provided on the corresponding movable guide rail members 17, 18 and eccentric cylindrical axis members 41b

5 external-insertedly fixed on the fixed axes for changeably adjusting angles around them, and moreover, the interlocking pinions adjust front and rear positions on the corresponding axes for front and rear, respectively.